The Role of Goods Trade Networks for Services Trade Volume*

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Abstract

In this paper, we address the role of countries' goods trade networks for their services trade volume. The paper employs a large cross-section of bilateral trade data on aggregate cross-border goods and services sales and illustrates that the depth and overlap of two countries' services networks induce a positive direct impact on their services trade volume. The evidence takes into account that goods trade flows and networks are potentially endogenous so that the estimated direct effects support a causal interpretation. We find that the magnitude of the multilateral goods-trade network effect on the bilateral services-trade volume is much larger than that of bilateral goods-trade volume.

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1 Introduction

It is now widely agreed that a substantial part of the explanation for the extraordinary growth in trade from the 1980s forward is the application of increasingly refined strategies of global organization of production involving trade in intermediates, outsourcing, foreign direct investment, et cetera in virtually endless combinations (e.g., Baldwin, 2006, 2014; Yi, 2003).[1] It has been widely noted that such global sourcing strategies involve complex patterns of flows of (primarily intermediate) goods passing into international trade many times, in many combinations, before reaching final consumers (Baldwin and Lopez-Gonzalez, 2014; Johnson and Noguera, 2012a, b; Francois, Manchin, and Tomberger 2013). While the role of intermediate goods has been studied in this context, less commonly commented on, and even less systematically studied, is the role of services in supporting this trade (though see Low, 2013, for an exception). In this paper, we focus directly on trade in services and its relationship to trade in goods, emphasizing the role of services trade in supporting complexity in goods trade.

In fact, there is a literature on the economics of trade services in the context of standard trade models (Deardorff, 1985, 2001; Markusen, 1989; Melvin, 1989; Francois, 1990b; ; van Marrewijk, Stibora, de Vaal, and Viaene, 1997; Lennon, Mirza, and Nicoletti, 2009). That is, these are services supporting trade (i.e., transportation, insurance, etc.), not services supporting a broader division of labor of the sort considered in the unbundling of production.[2] The latter is our particular focus. It is

[1]The same fact was, not surprisingly, a major part of the dramatic collapse of trade during the recent financial crisis (Bems, Johnson, and Yi, 2009, 2011; Ferrantino and Taglioni, 2014; Milberg and Winkler, 2010).

[2]An exception in this regard is the work of Francois (1990a, c) who is specifically interested in

interesting to note, in this context, that the rapid increase in trade associated with global sourcing does not seem to correlate with either a corresponding fall in formal protection (Yi, 2003) or transportation cost (Hummels, 2007). Instead, what Baldwin (2006, 2014) calls the *second unbundling* is more associated with widespread adoption of infomatic technology. By permitting the adoption of global sourcing, the associated fall in the overall coordination costs of managing a global production structure will increase demand not only for infomatic services, but for trade services supporting physical flows of intermediates, like transportation, insurance, finance, et cetera over the geographic domain of that global sourcing.

As Baldwin (2011) notes, the firm-level properties of the second unbundling have implications for the geographic distribution of economic activity. Specifically, while the information costs of managing a global production structure may not rise with distance (at least at the rate that the other trade costs do), distance might well proxy for generalized uncertainty and, perhaps more to the point, the costs of managerial attention (e.g., the costs to managers of traveling to facilities abroad) may rise quite dramatically with distance. All of this suggests that, ceteris paribus, there may be a strongly regional cast to this sort of specialization. Of course, cetera are not generally paribus. There may well be labor markets with wages (conditional on productivity) sufficiently low to make contracting for part of the production process worth the coordination cost. For our purposes, the essential thing is that similar firms will want to engage in similar global sourcing strategies.[3] To the extent that,

services permitting a broader and more complex production structure. For a broad overview of the literature on trade in services, see Francois and Hoekman (2010).

[3]For example, an American firm and a European firm, with similar production structures, might source medium skill components from Latin America and Eastern Europe respectively, but both might find Asia attractive for low skill assembly.

as argued above, a sizable share of trade growth was growth in global sourcing, post second unbundling, we would expect to see the emergence of patterns of trade reflecting common global sourcing strategies. In network terms, that means that we should see countries with firms pursuing common global sourcing strategies revealing substantial trade overlap – that is, they would have overlapping trade networks.

This has interesting implications for service trade. Much of the earlier literature on service trade suggests that trade services have a substantial degree of specificity. In the simple case, they are specific to a transaction (e.g., a haircut requires proximity to a head), but more generally they are often specific to a given market (e.g., local legal services, local knowledge, etc.). Furthermore, especially if there are economies of scale in the organization of such services, we might find firms specializing is provision of market-specific services located in a given exporter's market. If this is the case, a pair of countries with similar global sourcing strategies (i.e., countries with firms that operate in overlapping markets) would be expected to trade services more intensively between themselves than would two otherwise similar countries without the trade overlap. Thus, the empirical work reported in this paper seeks to explain service trade with, as well as standard trade cost and other variable in a gravity model, a measure of trade overlap grounded in network theory.

Ours is far from the first paper to study service trade in the context of an econometric gravity model. Much of this work is primarily interested in the question of whether the same variables explain trade in services that explain trade in goods. Applied to trade in goods, the gravity model is so successful that it is reasonable to characterize it as the industry standard empirical framework for the analysis of international trade. With the development of coherent micro foundations in general equilibrium theory, considerable clarity has been gained in terms of appropriate specification and interpretation of the results of gravity models (Eaton and Kortum, 2002; Anderson and van Wincoop, 2003; Bergstrand, Egger, and Larch, 2013).[4] Among standard findings from this research are that trade robustly declines with distance (Disdier and Head, 2008), borders reduce trade (Anderson and van Wincoop, 2001; Anderson and Yotov, 2010), and preferential trade agreements increase trade (Cipollina and Salvatici, 2010). While the empirical literature on trade in services has developed more recently, improved data on that trade has led to quite rapid growth in such research. Proceeding from research which presumes that economic delivery of services is fundamentally different from that for goods, most of this research has simply asked whether the same factors explain trade in services as trade in goods (e.g., Ceglowski, 2006; Kimura and Lee, 2006; Walsh, 2008; Head, Mayer, and Rieds, 2009; Christen and Francois 2010; Egger, Larch, and Staub, 2012; Kandilov and Grennes, 2012; Guillin, 2013; van der Marel and Shepherd, 2013; Anderson, Milot, and Yotov, 2014). Most of these find that standard gravity variables that the same effects as to sign (i.e., distance and borders reduce trade, PTAs increase it).[5] Of particular relevance for our work, a number of papers have found complementarity between trade in goods and trade in services (Ceglowski, 2006; Kimura and Lee, 2006) and between foreign direct investment and trade in services (Grünfeld and Moxnes, 2003; Fillat Castejon, Francois, and Woerz, 2008). The specifications in these papers are based on the trade services notion that

[4]For up to date surveys of theoretical and empirical issues, see: Anderson (2011); Bergstrand and Egger (2011); Baltagi, Egger, and Pfaffermayr (2014); and Head and Mayer (2014).

[5]As with many bodies of research, there is not unanimity on any of these results. Thus, for example, Kandilov and Grennes (2012) do not find a significant effect of distance; Grünfeld and Moxnes (2003) do not find an effect of PTAs.

services (like transportation and insurance) are tied to trade (or FDI) in a direct way. Thus, trade is directly included as a variable in the service trade gravity model. As explained above, we are interested in the idea that, in addition to trade services, business services supported by infomatics support the second unbundling. Thus, based on the above discussion, we use a measure of good trade network overlap as a proxy for common networks that would demand common services broadly construed.

Our research question is motivated, in part, by recent research on social networks (Kolaczyk, 2009; Newman, 2010; Wasserman and Faust, 1994). The tools, and conceptual structures, developed by network researchers provide a very useful approach to understanding and characterizing structures of social interaction. These have already proved useful in research on international trade (See Rauch 2001 for a convenient survey). While much research by economists focuses on networks as an emergent property created by agent behavior or as a constraint on individual behavior (e.g. Jackson, 2008; Goyal, 2009; Easley and Kleinberg, 2010), in this paper, we are more interested in trade network structures (strictly network homophily) as an indicator of a need for common network coordination issues that require common service inputs.

In what follows, we outline an empirical gravity model of services trade which is fit to being used for estimating the role of goods trade networks for services trade volume in the subsequent section. Section 3 describes the sources and characteristics of data this model is informed with. Section 4 summarizes the key findings from the empirical analysis, and the last section concludes with a brief summary and outline for future research.

2 A gravity model of services trade

A generic model of bilateral trade for any sector and year (suppressing the sector and year indices) may be written as

$$X_{ij} = \exp(\tau_{ij} + \mu_i + m_j + u_{ij}), \tag{1}$$

where X_{ij} measures the volume of exports of country i to country j (or imports of j from i), τ_{ij} is a trade-cost function that we will specify below, μ_i and m_j are exporter- and importer-specific effects related to supply and demand potential, and u_{ij}) is a disturbance (or stochastic) term. Since everything in the parentheses on the right-hand side of (3) comes under the exponential expression, the respective elements $\{\tau_{ij}, \mu_i, m_j, u_{ij}\}$ are measured in logs. Leading examples in the literature (see Bergstrand, 1985, 1989; Eaton and Kortum, 2002; Anderson and van Wincoop, 2003) specify the trade-cost function in a log-additive way, we may write

$$\tau_{ij} = \sum_{k=1}^{K} \alpha_k t_{k,ij}, \tag{2}$$

where $t_{k,ij}$ is the kth trade-cost factor (e.g., log bilateral distance but also binary indicator variables measuring land adjacency, common language, common history, etc.) and α_k is the parameter on it (a partial elasticity for variables in logs and a partial semi-elasticity for binary variables). We admit that μ_i and m_j have a structural interpretation and are nonlinear functions of τ_{ij} (see Eaton and Kortum, 2002; Anderson and van Wincoop, 2003; Fally, 2015). However, the latter is of minor importance here, since we condition on them through fixed effects (as, e.g., in Eaton and Kortum, 2002; Egger, Larch, Staub, and Winkelmann, 2011; or Fally, 2015). What is of primary interest here are estimates of τ_{ij} and, hence, α_k, in particular, to the extent that they relate to bilateral goods trade volume and bilateral goods trade network overlap with X_{ij} measuring the bilateral volume of services trade.

3 Specification of the trade-cost function and data

3.1 Dependent variable

As the dependent variable to the present analysis, we employ the aggregate volume of services trade. We present regressions, where this variable corresponds to all services trade volume consistent with balance-of-payments statistics (corresponding to EBOPS code 200 in the respective classification) and ones, where we exclude merchanting (so that the the left-hand side variable corresponds to EBOPS code 200 minus code 270).[6] The respective data refer to the year 2011 and are available from Francois and Pindyuk (2014).

3.2 Specification of the trade-cost function and data sources

We propose a trade-cost function which includes four classes of components: ones relating to goods trade volume and networks; ones relating to geography; ones relating to common culture and history; and ones relating to politics. Moreover, since we consider goods trade volume and network factors as endogenous determinants of

[6] Merchanting is a net rather than gross flow concept, and it does not correspond to trade in services as discussed here. Indeed the most recent set of balance of payments guidelines calls for this exact same adjustment; see Takeda (2006) and International Monetary Fund (2009).

services trade, we consider goods-tariff measures as instruments in a just-identified approach (where the number of identifying instruments corresponds to the number of endogenous right-hand-side variables).

Goods trade volume and network factors: We utilize two types of variables which relate to goods trade which we measure in 2011 based on information from the United Nations' Comtrade database. One is the volume of goods trade between countries i and j. This we measure as the log of the total bilateral goods trade volume, $x_{ij}^G = \ln(X_{ij}^G + X_{ji}^G)$, where X_{ij}^G and X_{ji}^G are the exports of and imports by country i to/from country j. The second variable measures the goods-trade network overlap of two countries i and j. The latter is defined as follows. Use $G_{i,-j}$ and $G_{j,-1}$ to denote the set of all export partners of countries i and j expect for partners j and i, respectively. Then, we may specify network-overlap index as net_{ij}^G as the log number of elements of the overlapping set of countries, $G_{i,-j} \cap G_{j,-i}$. In the empirical analysis, we employ x_{ij}^G as one variable and net_{ij}^G as another one.

Geographical factors: Key geographical factors used in the literature on the determinants of goods and services trade are log geographical distance, $dist_{ij}$, and a binary variable capturing common land borders, $bord_{ij}$. The data on these variables come from the Centre dÉtudes Prospectives et d'Informations Internationales' (CEPII's) gravity variable database.

Common cultural and historical factors: We employ measures on ethnological language communality, $lang_{ij}$, as well as on prior colonial relationships – one measuring whether i was a colony of j or vice versa, $colony_{ij}$, and one measuring whether i and j have had a common colonizer in the past, $colonizer_{ij}$.

Political factors: We include one measure which captures the difference in political freedom and the functioning of the political systems of two countries i and j. Specifically, we use the absolute difference in the Polity IV index scaled by the sum of two countries' individual index values as published by Marshall (2014), $dpolity_{ij}$.

Instruments: We use log applied (one-plus) simply-averaged goods-tariff rates between pairs of countries (on imports of i from j and vice versa) as a variable that exclusively affects bilateral goods-trade volume. The corresponding data come from the World Bank's World Integrated Trade Solution (WITS) database.

3.3 Descriptive statistics

In order to describe the variation in the data, we report the coefficient of variation (standard deviation divided by the mean) and the normalized maximum spread (maximum minus minimum over the mean). We do so in Table 1, which mentions the acronyms and definitions of variables in a first column, the coefficient of variation (*Std.dev./Mean*) in a second column, and the normalized maximum spread (*(Max.-Min./Mean)*) in the last column. In some of the empirical analysis we will report instrumental-variable (through control-function) regression results, where we treat x_{ij}^G and net_{ij}^G as endogenous, and in some of those regressions we treat pta_{ij} as an identifying instrument (affecting x_{ij}^G and net_{ij}^G but not services trade volume, X_{ij}, while in others we let pta_{ij} affect X_{ij} directly (notice that a few preferential trade agreements also are services-trade agreements). Therefore, we report statistics on pta_{ij} twice – once under the exogenous determinants of goods and services trade and once under the identifying instruments at the bottom of Table 1. Notice that the descriptive statistics are not the same for pta_{ij} in the two respective rows. The reason is that goods-trade exports, X_{ij}^G, contain much fewer missing values than services-trade exports, X_{ij} so that the number of observations on pta_{ij} is much bigger when it is used as an identifying instrument.[7]

– Table 1 here –

Overall, the descriptive statistics indicate that the two identifying instruments display a good degree of variation relative to the endogenous right-hand-side variables, net_{ij}^G and x_{ij}^G.

3.4 Implementation of the stochastic model

The implementation works in two steps. In the first step, we run a model for goods trade akin to the one in equation (3) by Poisson pseudo-maximum likelihood (see Santos Silva and Tenreyro, 2006) with exporter and importer fixed effects. This model contains the geographical factors, the common cultural and historical factors, the political factos and the instruments listed in Section 3.2 in but it naturally lacks the goods trade volume and network factors from the trade cost function. This model obtains residuals as specified in equation (3) which we denote for convenience by $\hat{u}_{ij}^G$. Based on the latter, we specify a control function

$$c_{ij} = \beta_1 \hat{u}_{ij}^G + \beta_2 (\hat{u}_{ij}^G)^2. \tag{3}$$

[7]Obviously, also the number of the other exogenous determinants of trade would be larger in that case, but it turns out that the variability of those regressors is more similar between the services-trade and the goods-trade regressions, so that we decided to not report descriptive statistics for these variables twice for the sake of brevity.

In the second step, we estimate

$$X_{ij} = \exp(\tau_{ij} + \mu_i + m_j + c_{ij} + u_{ij}) \tag{4}$$

for services trade volume by Poisson pseudo-maximum likelihood, which corresponds to (3) except for the inclusion of c_{ij} which guards against the endogeneity bias of the parameters on the goods-trade-volume and goods-network-overlap variables in the services-trade-volume regression (see Wooldridge, 2010).[8]

4 Empirical results

The empirical results are summarized in Tables 2 and 3. While we assume that net_{ij}^G and x_{ij}^G are exogenous in Table 2, we treat them as endogenous right-hand-side variables as outlined in Section 3.4 in Table 3. Each of the two tables reports parameter estimates and – underneath them – heteroskedasticity-robust standard errors at the top and some information about the sample size and the explanatory power of the models at the bottom. Moreover, each table is organized in two horizontal blocks: two columns on the left-hand side contain results for data on all services exports (corresponding to ebops category 200), and the ones on the right-hand side contain results for data on all services exports except for merchanting (corresponding to ebops category 268). All of the regression results pertain to two-way fixed effects models with fixed exporter and importer effects.

– Tables 2 and 3 here –

[8] In order to guard against biased inference, we bootstrap jointly over the two steps.

The reported values for the pseudo-R^2 suggest that the explanatory power of all models (including the first-stage regression in Table 3) is quite high. Moreover, the results suggest that – unless we treat net_{ij}^G and x_{ij}^G as endogenous – the cultural, geographical, historical, and political pair-specific variables have little explanatory power for bilateral services trade. However, once treating net_{ij}^G and x_{ij}^G as endogenous, which seems plausible, this pattern changes to some extent. Let us therefore concentrate on the relevant results in Table 3.

That table suggests that both pta_{ij} and $tariffmarg_{ij}$ are relevant regressors in the goods-trade model and have a high individual and joint relevance. Hence, they should work well as identifying instruments for both net_{ij}^G and x_{ij}^G. Moreover, the the cultural, economic, geographical, historical, and political pair-specific variables affect bilateral goods trade in the expected way. Notice that the tariff margin is the extent of tariff-reductions granted relative to the most-favored-nation rate so that we expect a positive sign for this variable which it indeed carries (notice that the importer fixed effects in the goods-trade model captures the most-favored nation tariff rate).

The coefficient on net_{ij}^G is 8.267 and 10.138 in the two models for all services trade and it is 28.815 and 29.615 without merchanting, depending on whether we include pta_{ij} in the second-stage regression or not. How large is the impact of multilateral goods-trade networks? For this, notice that the standard deviation of this variable (not reported in Table 1) amounts to 0.105. Hence, in Specification 1, an increase of net_{ij}^G by one standard deviation raises bilateral services trade volume by $100(\exp(8.267 \cdot 0.105) - 1) \approx 138\%$. In comparison, the impact of bilateral goods-trade volume on services-trade volume is small (for all services trade) or negligible (for services trade without merchanting). The latter points to a strong complementarity between multilateral goods-trade liberalization and the proliferation not only of goods-trade but also of services-trade volume. Up until now, the latter tends to be ignored in reduced-form as well as structural-form work on the effects of goods-trade liberalization.

5 Conclusions

The goal of this paper was to shed light on the role of goods trade – multilateral networks as well as bilateral volume – for services-trade activity at the country-pair level. The approach taken was one of the estimation of multiplicative (exponential-family) models of bilateral services-trade volume where – apart from traditional trade costs and supply potential as well as demand potential – a country-pairs' goods-trade network *overlap* as well as its bilateral goods-trade *volume* were considered as factors that could potentially stimulate bilateral services trade.

Using data on the largest-possible cross section of country pairs with recorded services-trade data for 2011, the evidence in this paper suggests that, conditional on other factors and when considering goods-trade networks and volume as endogenous, it is the overlap in goods-trade networks but not bilateral goods-trade volume which stimulates services trade. The associated effect on services-trade volume is large, dominating, e.g., effects of trade agreements on goods-trade volume in magnitude by a large margin.

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Tables

Table 1: Descriptive Statistics

	Std.dev./Mean	(Max.-Min./Mean)
Endogenous variables		
X_{ij} (all services trade; ebops=200)	3.773	17.680
X_{ij} (services trade w/o merchanting; ebops=268)	3.695	17.259
net^G_{ij} (goods trade network overlap)	0.022	6.163
X^G_{ij} (goods exports)	4.465	33.822
x^G_{ij} (log goods exports plus imports)	0.248	7.449
Exogenous variables in trade regressions		
$dist_{ij}$ (log distance)	0.137	5.114
$bord_{ij}$ (land adjacency)	4.607	4.822
$lang_{ij}$ (common language)	3.354	3.651
$colony_{ij}$ (colonial relationship)	5.344	5.530
$colonizer_{ij}$ (common colonizer)	5.475	5.656
$dpolity_{ij}$ (norm. abs. diff. In Polity IV scores)	1.182	4.270
pta_{ij} (members of same PTA)	1.907	2.431
Identifying instruments in goods-trade regression		
$tariffmarg_{ij}$ (tariff margin extended)	-3.647	23.675
pta_{ij} (members of same PTA)	2.175	2.634

Notes: pta_{ij} is listed twice, since the number of observations in the goods-trade regression differs largely from those in the services-trade regressions. The mean-normalized statistics given indicate the degree of variation of the respective variables.

Table 2: Regression Results Assuming Exogenous Goods-Trade Variables

Variable	Spec 1.		Spec. 2.		Spec. 1		Spec. 2	
net_{ij}^{G}	8.035	*	9.495	**	27.316	***	27.823	***
	4.160		4.240		4.966		4.988	
x_{ij}^{G}	0.563	***	0.550	***	0.591	***	0.593	***
	0.038		0.038		0.064		0.063	
$dist_{ij}$	-0.036		-0.017		0.002		-0.001	
	0.041		0.043		0.080		0.080	
$bord_{ij}$	-0.017		0.003		0.062		0.064	
	0.088		0.088		0.126		0.125	
$lang_{ij}$	0.108		0.052		-0.027		-0.035	
	0.108		0.116		0.151		0.151	
$colony_{ij}$	0.283	***	0.329	***	-0.188		-0.193	
	0.108		0.113		0.125		0.126	
$colonizer_{ij}$	-0.105		-0.110		0.645		0.633	
	0.223		0.227		0.535		0.535	
$dpolity_{ij}$	-0.262		-0.225		9.456	***	9.599	***
	0.357		0.383		3.073		3.255	
pta_{ij}	-		0.328	***	-		1.187	**
	-		0.121		-		0.465	
R^2	0.857		0.856		0.889		0.890	
Obs.	3221		3221		2015		2015	
Dependent variable:								
All services	yes		yes		no		no	
Services w/o merchanting	no		no		yes		yes	

Notes: Robust standard erors are reported below coefficients. ***, **, * indicate statistical significance at 1%, 5%, and 10%, respectively, using two-tailed test statistics.

Table 3: Regression Results Assuming Endogenous Goods-Trade Variables

Variable	Spec 3.		Spec. 1.		Spec. 2		Spec. 1		Spec. 2	
net_{ij}^{G}	-		8.267	*	10.138	**	28.815	***	29.615	***
	-		4.568		4.524		4.844		4.868	
x_{ij}^{G}	-		0.358	***	0.213	***	-0.010		-0.019	
	-		0.085		0.082		0.086		0.086	
$dist_{ij}$	-0.534	***	-0.157	***	-0.197	***	-0.355	***	-0.366	***
	0.021		0.054		0.054		0.080		0.081	
$bord_{ij}$	0.568	***	0.089		0.188	**	0.395	***	0.403	***
	0.064		0.083		0.078		0.125		0.124	
$lang_{ij}$	0.158	*	0.176		0.118		0.014		0.003	
	0.083		0.113		0.115		0.137		0.137	
$colony_{ij}$	0.067		0.294	***	0.375	***	-0.257	**	-0.264	**
	0.064		0.098		0.098		0.112		0.112	
$colonizer_{ij}$	0.332	**	0.034		0.059		1.259	**	1.266	**
	0.156		0.254		0.252		0.547		0.546	
$dpolity_{ij}$	0.872	***	-0.180		-0.038		12.866	***	13.306	***
	0.210		0.367		0.398		3.320		3.519	
pta_{ij}	0.669	***	-		0.557	***	-		1.395	***
	0.094		-		0.127		-		0.417	
$tariffmarg_{ij}$	6.698	**	-		-		-		-	
	3.057		-		-		-		-	
$\eta_{ij}^{0.5}$	-		0.675	*	1.019	***	2.812	***	2.888	***
	-		0.363		0.355		0.579		0.582	
η_{ij}	-		-0.083		-0.118		-0.578	***	-0.596	***
	-		0.089		0.088		0.170		0.171	
η_{ij}^{2}	-		0.000		0.000		0.006	***	0.006	***
	-		0.001		0.001		0.002		0.002	
R^2	0.867		0.865		0.869		0.907		0.907	
Observations	7212		3059		3059		1936		1936	
All goods	yes		no		no		no		no	
All services	no		yes		yes		no		no	
Services w/o merchanting	no		no		no		yes		yes	

Notes: Robust standard erors are reported below coefficients. ***, **, * indicate statistical significance at 1%, 5%, and 10%, respectively, using two-tailed test statistics.

Appendix: Sample composition

Countries which are only available as goods exporters and importers: Benin, Botswana, Guinea, Kuwait, Lao People's Democratic Republic, Philippines, Venezuela, United Arab Emirates.

Countries which are only available as services importers as well as as goods exporters and importers: Comoros, Morocco, Mozambique, Pakistan, Qatar.

Countries which are available as services as well as goods exporters and importers: Albania, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Belarus, Belgium, Bolivia, Brazil, Bulgaria, Burkina Faso, Cambodia, Canada, Chile, China, Colombia, Costa Rica, Cote d'Ivoire, Croatia, Cyprus, Czech Republic, Denmark, Ecuador, Egypt, El Salvador, Estonia, Ethiopia, Finland, France, Georgia, Germany, Ghana, Great Britain, Greece, Guatemala, Honduras, Hungary, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Malta, Mauritius, Mexico, Mongolia, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Oman, Panama, Paraguay, Peru, Poland, Portugal, Russian Federation, Rwanda, Saudi Arabia, Senegal, Singapore, Slovak Republic, Slovenia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Tanzania, Thailand, Togo, Tunisia, Turkey, Uganda, Ukraine, United States, Uruguay, Viet Nam, Zambia, Zimbabwe.